

**REMARKS**

In view of the above amendment, applicant believes the pending application is in condition for allowance.

This amendment is in response to the Final Official Action dated July 25, 2008. Claims 8 and 9 have been amended, claims 2-3, 6 have been canceled, and claims 10-11 have been added; as such, claims 1, 4-5 and 7-11 are now pending in this application. Claims 1 and 5 are independent claims. Reconsideration and allowance is requested in view of the claim amendments and the following remarks.

No new matter has been added by this Amendment. Support for the amended claims can be found in the specification as filed. For example, support for features described in connection with a jaggy elimination unit is found in fig. 1 and paragraph 0049 of the corresponding description in the specification. (See, U.S. Pub. No. 2006/0227353 A1).

**Claim Rejections – 35 U.S.C. 103 Case Law**

According to Federal Circuit precedent, the burden of establishing a *prima facie* case of obviousness under 35 U.S.C. § 103 rests squarely on the shoulders of the Patent Office. *In re Rinehart*, 531 F.2d 1048, 1052 (C.C.P.A. 1976); *accord*. MPEP 2142. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *See, e.g., Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985) (“To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references”); *In re Geiger*, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987) (“When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the references”); *ACS Hosp. Sys. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984) (“Obviousness cannot be

established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination"); *accord*. MPEP 2143.

Second, there must be a reasonable expectation that the proposed modifications or combination would be successful. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097, 231 USPQ 375 (Fed. Cir. 1986); *accord*. MPEP 2143.02. Finally, the prior art reference (or references when combined) must teach or suggest each and every claim limitation. *See, e.g., In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974); *accord*. MPEP 2143.03.

### **General Comments**

Claim 1 have been rejected under 35 U.S.C. § 103 as being unpatentable over Ishida et al. (hereinafter “Ishida ‘978” 6,232,978), in view of Karidi et al. (hereinafter “Karidi ‘094” US PUB 2003/00123094). Applicant respectfully traverses this rejection.

1. Ishida ‘978 is solving a problem completely different from the problem being solved by Karidi ‘094.
2. Ishida ‘978 is solving the problem/difficulty of obtaining a high-quality zoomed image using contour information by means of related to magnification whereas, Karidi ‘094 Karidi ‘094 is solving the problem/difficulty of Image text smoothing in the horizontal, vertical and slanted angles.
3. Given the distinctive problems/fields of Ishida ‘978 and Karidi ‘094 it would be illogical to combine Ishida ‘978 and Karidi ‘094.

### **General Lack of Motivation Arguments**

The Office Action has also not addressed in the action why one skilled in the art would be motivated to modify or combine the teachings of Ishida ‘978 with Karidi ‘094. As stated above, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). The Office Action has only argued that it would have been obvious to one of ordinary skill of the art at the time of the invention to make Ishida ‘978’s printing apparatus comprising a bitmap storage unit (col. 13, lines 55-60 and element 15 of figure 1) to be further include a bitmap data acquisition unit for acquiring bitmap data of Karidi ‘094 (see page 3, lines 4-6 and lines 18-21, of the Office Action). However, the Office Action simply states that one of ordinary skill in the art would combine the bitmap data acquisition

unit of Karidi '094. As stated above, the Office Action must state a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. **This Final Office Action states no convincing line of reasoning to combine the two references.** Accordingly, the argument in this Office Action is insufficient as defined by §2143.01 of the MPEP which states that "a statement that modifications of the prior art to meet the claimed invention would have been 'well within the ordinary skill of the art' at the time the claimed invention was made' because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). See also *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1318 (Fed. Cir. 2000)".

Moreover, regarding claim 1, Ishida '978, does not teach a bitmap data acquisition unit for acquiring bitmap data in a matrix of a dot pattern of  $n \times m$ . Indeed the **Office Action admits that Ishida '978 does not teach** a bitmap data acquisition unit for acquiring bitmap data in a matrix of a dot pattern of  $n \times m$  (Page 3, lines 7-8 of the Office Action). With this, the applicant agrees.

Nevertheless, the Office Action relies on Karidi '094 for disclosing a bitmap data acquisition unit for acquiring bitmap data in a matrix of a dot pattern of  $n \times m$ . However, Karidi '094 does not teach explicitly teach a transformation rule retention unit for retaining stat transformation rules for transforming bitmap data and a data transformation unit for transforming part of said bitmap data according to said transformation rules, wherein said transformation rules include a matrix of a dot pattern of  $n \times m$  before transformation and a matrix of a dot pattern of  $n \times m$  after transformation each of which corresponds to each of the before transformation  $n \times m$  dot patterns, and according to said transformation rules, if the matrix of a dot pattern of  $n \times m$  of said bitmap data matches any one of said  $n \times m$  dot patterns before transformation, said pattern is transformed into the corresponding one of said dot patterns after transformation.

The Office Action cites a transformation rule retention unit (Karidi '094, element 503 of figure 5) but **this element refers to a jaggy look-up table and not to a transformation rule retention unit.** Further, the Office Action cites a data transformation unit for transforming part of

the bitmap data according to the transformation rules (Karidi '094, paragraph 0053-0054). This is not accurate. Karidi '094 (paragraph 0053-0054) illustrates smoothing process wherein a region is binarized into ink and background pixels using a threshold Tdark; after which, a smoothing level is assigned with values ranging from zero to three for each pattern of nine ink or background pixels in a 3 x 3 window (Karidi '094, paragraph 0053). The present invention, however, teaches "transformation rules include a matrix of a dot pattern of  $n \times m$  **before** transformation and a matrix of a dot pattern of  $n \times m$  **after** transformation each of which corresponds to each of the before-transformation  $n \times m$  dot patterns" and "according to said transformation rules, if the matrix of a dot pattern of  $n \times m$  of said bitmap data matches any one of said  $n \times m$  dot patterns **before** transformation, said pattern is transformed into the corresponding one of said dot patterns **after** transformation (emphasis added)." Accordingly, paragraphs 00053-0054 of Karidi '094 are not related to the transformation rule of before and the transformation rule of after. Therefore, Karidi '094 does not disclose the deficiencies of Ishida '978.

### **Technical Arguments**

Claim 1 recites: *[a] printing apparatus comprising a bitmap data storage unit for storing bitmap data; a bitmap data acquisition unit for acquiring said bitmap data in a matrix of a dot pattern of  $n \times m$  from said bitmap data storage unit; a transformation rule retention unit for retaining data transformation rules for transforming bitmap data; and a data transformation unit for transforming part of said bitmap data according to said transformation rules wherein said transformation rules include a matrix of a dot pattern of  $n \times m$  before transformation and a matrix of a dot pattern of  $n \times m$  after transformation each of which corresponds to each of the before-transformation  $n \times m$  dot patterns and according to said transformation rules, if the matrix of a dot pattern of  $n \times m$  of said bitmap data matches any one of said  $n \times m$  dot patterns before transformation, said pattern is transformed into the corresponding one of said dot patterns after transformation; and a printing unit for printing data that is produced based on processing results.*

The Office Action admits that Ishida '978 does not explicitly teach "a bitmap data acquisition unit for acquiring said bitmap data in a matrix of a dot pattern of  $n \times m$  from said bitmap data storage unit; a transformation rule retention unit for retaining data transformation rules for

transforming bitmap data; and a data transformation unit for transforming part of said bitmap data according to said transformation rules wherein said transformation rules include a matrix of a dot pattern of  $n \times m$  before transformation and a matrix of a dot pattern of  $n \times m$  after transformation each of which corresponds to each of the before transformation  $n \times m$  dot patterns and according to said transformation rules, if the matrix of a dot pattern of  $n \times m$  of said bitmap data matches any one of said  $n \times m$  dot patterns before transformation, said pattern is transformed into the corresponding one of said dot patterns after transformation” as recited in applicant’s claims 1’. Applicant Agrees.

Nevertheless, the Office Action relies on Karidi ‘094 for the teaching “a bitmap data acquisition unit for acquiring said bitmap data in a matrix of a dot pattern of  $n \times m$  from said bitmap data storage unit; a transformation rule retention unit for retaining data transformation rules for transforming bitmap data; and a data transformation unit for transforming part of said bitmap data according to said transformation rules wherein said transformation rules include a matrix of a dot pattern of  $n \times m$  before transformation and a matrix of a dot pattern of  $n \times m$  after transformation each of which corresponds to each of the before transformation  $n \times m$  dot patterns and according to said transformation rules, if the matrix of a dot pattern of  $n \times m$  of said bitmap data matches any one of said  $n \times m$  dot patterns before transformation, said pattern is transformed into the corresponding one of said dot patterns after transformation.”

However, Karidi does not disclose this and instead teaches that based on the peripheral 3 x 3 pixel pattern of a center pixel, ink value of the center pixel is modified. The invention of this application, on the other hand, is to replace the 3 x 3 pattern before with a pre-stored 3 x 3 pattern after.

### **Contrary Art Case Law**

A patent claim is obvious if the differences between the claimed invention and the prior art “are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.” 35 U.S.C. § 103; *see also Graham v. John Deere Co.*, 383 U.S. 1, 14, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966); *In re Dembicza*k, 175 F.3d 994, 998 (Fed. Cir. 1999). While obviousness is ultimately a legal determination, it is based on several

underlying issues of fact, namely: (1) the scope and content of the prior art; (2) the level of skill of a person of ordinary skill in the art; (3) the differences between the claimed invention and the teachings of the prior art; and (4) the extent of any objective indicia of non-obviousness. *See Graham*, 383 U.S. at 17-18. When obviousness is based on the teachings of multiple prior art references, the Office Action must also establish some “suggestion, teaching, or motivation” that would have lead a person of ordinary skill in the art to combine the relevant prior art teachings in the manner claimed. *See Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1359-60 (Fed. Cir. 1999); *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1572 (Fed. Cir. 1996). The Applicant(s) may rebut a *prima facie* showing of obviousness with evidence refuting the Office Action’s case or with other objective evidence of nonobviousness. *See WMS Gaming, Inc. v. Int’l Game Tech.*, 184 F.3d 1339, 1359 (Fed. Cir. 1999).

In this case, the Office Action has not explained why a person of ordinary skill in the art would have found it obvious to combine the alleged teachings to pulverize the material such that “[*[a half-value width of a maximum diffraction peak of the mixed material in an X-ray diffraction using a CuKa ray is 1.0° or smaller]*].” Therefore, the Office Action has failed to overcome the first element of providing a *prima fascia* showing of obviousness as stated above.

Again, *In re Oetiker* provides that “[t]here must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination.” “The examiner must show reasons that the skilled artisan, confronted with the same problem as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.” *In re Oetiker* 47 USPQ2d 1453, at 1458 (Fed. Cir. 1998).

Further, the Office Action does not cite a reference that suggests pulverizing the material to the extent that “[*[a half-value width of a maximum diffraction peak of the mixed material in an X-ray diffraction using a CuKa ray is 1.0° or smaller]*].” Thus, Applicants seasonably requests documentary evidence to support the Office Action as required by 37 CFR § 1.104(d)(2) and MPEP § 2144.03.

### Contrary Art Arguments

The alleged motivation cited by the Office Action for combining Ishida '978 and Karidi '094 to reject independent claim 1 is that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Ishida '978 as taught by Karidi '094 since Karidi '094 suggested in paragraph 002 that such a modification would provide an efficient apparatus for producing text images with improved smoothness in slanted edges.

Applicant asserts that the Office Action's alleged motivation is based upon Applicant's own disclosure and is therefore an improper use of hindsight. The Office Action merely viewed the present application and attempted to select prior art containing the means for obtaining a high-quality zoomed image using contouring information of Ishida '978 and the image text smoothing means of Karidi '094 **without citing** specific evidence of motivation to combine the references other than the conclusory statements regarding motivation and obviousness. Accordingly, absent such motivation, a prima facie case of obviousness under 35 U.S.C. §103(a) has not been established and the rejection must be withdrawn.

Applicant directs the Examiner's attention to two cases decided by the Court of Appeals for the Federal Circuit (CAFC), *In re Dembiczkak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed.Cir. 1999) and *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed.Cir. 2000). Both of these cases set forth very rigorous requirements for establishing a prima facie case of obviousness under 35 U.S.C. §103(a).

To establish obviousness based on a combination of elements disclosed in the prior art, there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the Applicant. The motivation, suggestion, or teaching may come explicitly from one of the following:

- (a) the statements in the prior art (patents themselves)
- (b) the knowledge of one of ordinary skill art, or in some cases,
- (c) the nature of the problem to be solved.

See Dembiczak 50 USPQ at 1614 (Fed.Cir. 1999).

In order to establish a *prima facie* case of obviousness under 35 U.S.C. §103(a), the Office Action must provide particular findings as to why the two pieces of prior art are combinable. See Dembiczak 50 USPQ2d at 1617. Broad conclusory statements standing alone are not "evidence".

Neither Ishida '978 nor Karidi '094 teach or suggest combining their features to arrive at independent claim 1; nor does the Office Action cite any particular passage to provide evidence that such a combination would be obvious to one of ordinary skill in the art. On the contrary, the disclosed references seek to overcome differing problems and therefore do not constitute an obvious combination.

Ishida '978 is directed towards solving the problem/difficulty of obtaining a high-quality zoomed image using contour information by means of related to magnification. Karidi '094, on the other hand, is directed towards solving the problem/difficulty of Image text smoothing in the horizontal, vertical and slanted angles.

Given the distinct and differing problems solved by the references, neither reference provides any evidence teaching or suggesting their combination. **Thus, it would not have been obvious to one of ordinary skill in the art to combine the teachings of Ishida '978 and Karidi '094.**

Relying on common knowledge or common sense of a person of ordinary skill in the art without any specific hint or suggestion of this in a particular reference is not a proper standard for reaching the conclusion of obviousness. See *In re Sang Lee*, 61 USPQ 2d 1430 (Fed. Cir. 2002).

Further, relying on obvious design choice as a reason for combining teachings of the various references is again not the proper standard for obviousness. If the Examiner is relying on personal knowledge to support a finding of what is known in the art, the Examiner must provide an Affidavit or Declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d) (2) and MPEP 2144.03(c). In view of the above arguments,

Applicant asserts that the Office Action has not established the required motivation for combining the teachings of Ishida '978 and Karidi '094 and therefore fails to establish a *prima facie* case of obviousness under 35 U.S.C. §103(a).

With regard to independent claim 5, the claimed limitations are those that are claimed in claim 1. The steps of claim 5 read into the function of claim 1.

For the reasons stated above, claims 5 also overcome the prior art (although claims 1 and 5 should be interpreted solely based upon the limitations set forth therein). Furthermore, at least for the reason disclosed above, claims 4 and 7-11 overcome the combination of Ishida '978 and Karidi '094 because they depend on independent claims 1 and 5.

Accordingly, Applicant respectfully requests that the rejection of and the claims under 35 U.S.C. § 103(a) be withdrawn.

In view of the above amendment and remarks, applicant believes the pending application is in condition for allowance.

In view of the foregoing arguments, all claims are believed to be in condition for allowance. If any further issues remain, the Examiner is invited to telephone the undersigned to resolve them.

This response is believed to be a complete response to the Office Action. However, Applicant reserves the right to set forth further arguments supporting the patentability of their claims, including the separate patentability of the dependent claims not explicitly addressed herein, in future papers. Further, for any instances in which the Examiner took Official Notice in the Office Action, Applicant expressly does not acquiesce to the taking of Official Notice, and respectfully request that the Examiner provide an affidavit to support the Official Notice taken in the next Office Action, as required by 37 CFR 1.104(d)(2) and MPEP § 2144.03.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 18-0013, under Order No. IRD-0003 from which the undersigned is authorized to draw.

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Respectfully submitted,

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